CITY OF SUNNYVALE 2004 WATER QUALITY REPORT

We are proud to report that the water provided by the City of Sunnyvale continues to meet established water quality standards. The City is required to test water quality over the course of each year, and the California State Department of Health Services requires us to distribute to all City customers an annual report on water quality. This report provides our customers with important information on the City's water supply sources and water quality testing.

On the front and back pages of this report you will find important information, including a description of contaminants that may be present in source water. Inside, you will find the results of water quality testing performed in 2004 showing concentrations of various contaminants relative to health and aesthetic standards.

The bottom line is this: testing shows that the water provided by the City of Sunnyvale meets established water quality standards. The City is pleased to present this report to you and welcomes any comments you may have regarding the information contained in it. Please feel free to contact Val Conzet, Public Works Supervisor, at (408) 730-7510, or by e-mail at vconzet@ci.sunnyvale.ca.us

CITY'S WATER SOURCES

Approximately 87 percent of the water provided by the City to our customers during a normal year is treated surface water. The remaining 13 percent is ground water pumped from nine City-owned and operated wells, and recycled water for some landscape and industrial customers.

The surface water comes from two sources. The Sunnyvale Water Division manages the delivery of San Francisco Public Utilities Commission (SFPUC) water from six delivery points located along their transmission pipeline, which runs through the northern part of the City. Eighty percent of SFPUC's water originates in the Hetch-Hetchy Reservoir located in Yosemite National Park, and the other 20 percent comes from the Calaveras or San Antonio reservoirs in the Alameda Creek watershed. About 42 percent of Sunnyvale's total water supply comes from the SFPUC.

The Sunnyvale Water Division also receives water from the Santa Clara Valley Water District (SCVWD) in the southern part of the City. SCVWD imports water from the Sacramento/San Joaquin Delta and treats the water at their Rinconada Treatment Plant in Los Gatos. About 45 percent of Sunnyvale's total water supply comes from the SCVWD.

HEALTH INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those undergoing chemotherapy or who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

此份有关你的食水报告,内有重要资料和讯息,请找他人为你翻译及解释清楚。

Chi tiết này thật quan trọng.
Xin nhờ người dịch cho quý vị.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants, are available from the Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial Contaminants: such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Cryptosporidium and Giardia are parasitic microbes found in most surface-water supplies that can pose a potential health threat. If any of these microbes is ingested, symptoms may include diarrhea, stomach cramps, upset stomach, and slight fever. People with severely weakened immune systems, such as those identified previously, are likely to have more severe and persistent symptoms than healthy individuals, including complications that can become life-threatening. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

The SFPUC and the SCVWD regularly test for Cryptosporidium and Giardia in both source and treated water supplies serving the East Bay, South Bay, and San Francisco Peninsula. Both Cryptosporidium and Giardia have occasionally been found at very low levels. Current test methods do not allow us to determine with certainty if the microbes are dead or if they are capable of infecting humans.

Inorganic Contaminants: such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic Chemical Contaminants: including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

Radioactive Contaminants: which can be naturally-occurring or the result of oil and gas production and mining activities.

Pesticides and Herbicides: which may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

In order to ensure the tap water is safe to drink, the U.S. EPA and the California Department of Health Services (CDHS) prescribe regulations to limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water to provide the same protection for public health

Nitrate: nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. High nitrate

CONTINUED ON BACK PAGE

levels in drinking water can cause blue-baby syndrome. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask for advice from your health care provider.

Perchlorate: Consumer interest has been raised by perchlorate issues in south Santa Clara County. Sunnyvale residents should be glad to hear that no perchlorate was found in Sunnyvale water in 2004. Similarly, any contaminants listed and regulated by the state or the EPA, which are not included in the listings in this report, were not present in Sunnyvale's water in 2004.

Methyl Tert-Butyl Ether (MTBE): MTBE is a chemical added to gasoline to reduce air pollution. Sunnyvale tested all City-owned and operated drinking water wells, and no MTBE was detected.

Radon: Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, you can arrange for inexpensive and easy air quality testing. If the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher, you should fix the problem. For additional information, contact the State radon program or call EPA's Radon Hotline at (800) SOS-RADON.

PUBLIC PARTICIPATION

If you are interested in providing input on decisions that affect drinking water quality, any member of the public can speak on any issue specifically coming before the Council at a regularly scheduled City Council meeting, or on any topic you wish to bring to the Council's attention under the Citizens to be Heard portion of the agenda. You also can send a letter in advance of a meeting.

City Council meetings are held on Tuesday nights at 7:30 p.m. in the City Hall Council Chambers at 456 West Olive Ave. in Sunnyvale.

A list of City Council meetings, agenda items, and study issues is available on the City's Web site at www.sunnyvale.ca.gov or by calling the City Clerk's office at (408) 730-7483.

DISINFECTION (Chloramine/Chlorine/Ammonia)

Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia; is more stable than chlorine and offers a number of health benefits. Chloramine lasts longer in water to provide more protection against pathogens such as bacteria and viruses, and produces lower levels of disinfection byproducts such as trihalomethanes (THMs). State and Federal regulations effective January 2002 lowered the allowable level of exposure to disinfection by-products. The water provided by SFPUC and SCVWD is disinfected with chloramines which can affect dialysis treatment. The City maintains contact with dialysis treatment centers in the City. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Transpacific Network for Dialysis at (415) 331-1545 can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

FLUORIDATION

The SFPUC is completing construction on a new, system-wide fluoridation facility. The treatment process is scheduled to be ready in September of 2005, and at that time the water the SFPUC provides to Sunnyvale will be fluoridated. Since the City's other wholesale water provider (SCVWD) has no plans to fluoridate its water and the City does not fluoridate its well water, this will cause some areas of Sunnyvale to receive fluoridated water, other areas to receive non-fluoridated water, and some areas to receive a mixture of fluoridated and non-fluoridated water. If you would like more information please contact the Water Division at (408) 730-7510.

INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM

The City has completed a Drinking Water Source Assessment Program (DWSAP) for the groundwater sources. The DWSAP was completed in January 2003, and submitted to the California Department of Health Services at that time. A copy of the DWSAP may be viewed by appointment at the City's Corporation Yard, at 221 Commercial St., Sunnyvale. You may request a summary of the individual assessments by contacting the Water Utility Division at 408-730-7510.

The City's groundwater sources are considered most vulnerable to contamination by leaky underground tanks containing fuel or dry-cleaning chemicals, sewer collection systems, old septic systems, and machine shops. The City owns and operates nine (9) deep wells, and no contaminants were detected in the 2004 test results. A summary of the City's DWSAP can be found at http://swap.ice.ucdavis.edu/tsinfo/tsintro.asp.

IMPORTANT CONTACTS

Water Quality
7 a.m. - 4:30 p.m. (408) 730-7510

Utility Billing
8 a.m. – 5 p.m.
Residential (408) 730-7400
Commercial (408) 730-7681

Backflow and Cross Connection Control Program
7 a.m. - 4:30 p.m. (408) 730-7574

Informed consumers are our best allies in maintaining safe drinking water. If you are interested in water information and decisions being made relative to new regulations, information is available on the Internet.

City of Sunnyvale
www.sunnyvale.ca.gov

California Dept. of Health Services (CDHS)
www.dhs.ca.gov/ps/ddwem/default.htm

U.S. Environmental Protection Agency (EPA)
www.epa.gov/ogwdw/

Dept. of Water Resources (DWR)
www.dwr.water.ca.gov/

City of Sunnyvale

2004 Water Quality Report

2004 Water Quality Test Results for Water Provided by the City of Sunnyvale [1]

ALL RESULTS MET STATE AND FEDERAL WATER REGULATIONS

How to Read this Chart

The first column, labeled Standards, lists the standards for various water quality parameters and contaminants. The second column, labeled Water Test Results, shows the range of concentrations in water quality samples taken during 2004, as well as the average concentration. This data is shown for the three sources of Sunnyvale's water: well water, and imported surface water from the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). To evaluate test results, compare the standards with the actual measured concentrations listed under Water Test Results. The final column describes where contaminants may originate. In most cases, the specific source of a contaminant is not known. All results met State and Federal water regulations.

STANDARDS				WATER TEST RESULTS						TYPICAL SOURCES IN DRINKING WATER
Primary Standards - Mandatory Health Related Standards					Imported Surface Waters					
			PHG [3]	Sunnyvale Well Water [5]	SCVWD [6]		SFPUC [7]			
Parameter	*Unit*	*MCL [2]*	*MCLG [4]*	*Range*	*Avg.*	*Range*	*Avg.*	*Range*	*Avg.*	
CLARITY										
Turbidity [8] - Sunnyvale wells	NTU	5	NS	0.1 - 1.1	0.39					Soil runoff
Turbidity [8] - Rinconada water treatment plant	NTU	0.3[9]	NS			0.03 - 0.08	0.05			Soil runoff
Turbidity [8] - Sunol Valley water treatment plan	NTU	0.3[9]	NS					99%[12]		Soil runoff
MICROBIOLOGICAL										
Total Coliform Bacteria [10]	% Pos	5		0.00 - 1.0	0.2	Absent - Absent	Absent		n/a	Naturally present in the environmen
Heterotrophic Plate Count	CFU/ml	TT			n/a	1 - 1070	116		n/a	Naturally present in the environmen
ORGANIC CHEMICALS										
Total Trihalomethanes (TTHM)	ppb	80	NS	ND - ND	ND	33 - 64	49	21 - 48	47	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	ppb	60	NS	N/A - N/A	N/A	10 - 37	22	16 - 30	23	By-product of drinking water chlorination
MTBE [14]	ppb	5	13	ND - ND	ND	ND - ND	ND		n/a	Leaking underground storage tanks; discharge from petroleum and chemical factories
INORGANIC CHEMICALS										
Aluminum	ppm	1	NS	ND - ND	ND	ND - ND	ND	0.03 - 0.04	0.038	Erosion of natural deposits
Arsenic	ppb	10	n/a	ND - ND	ND	2 - 2	2	ND - ND	ND	Erosion of natural deposits
Barium	ppm	1	2	ND - 0.2	0.1	ND - ND	ND	0.003 - 0.05	0.026	Erosion of natural deposits
Fluoride-Natural	ppm	2	1	0.1 - 0.2	0.2	ND - ND	ND	<0.1 - 0.14	<0.1	Erosion of natural deposits
Nitrate + Nitrite as N [13]	ppm	10	10	2.3 - 7.8	4.6		n/a		n/a	Runoff and leaching from fertilizer use, erosion of natural deposit
Nitrate as NO_3	ppm	45	45	10.7 - 33.2	20.9	2 - 5	3		n/a	Runoff and leaching from fertilizer use, erosion of natural deposits. *Health Note: Infants below the age of six months who drink water containing nitrate in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome*
RADIONUCLIDES										
Gross Alpha	pCi/L	15	n/a	ND - 3.0	1.8		n/a		n/a	Erosion of natural deposits
Gross Beta	pCi/L	50	n/a	ND - 3.0	2.1		n/a		n/a	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	ND - 0.6	0.3					Erosion of natural deposit
Secondary Standards - Aestetic Standards					Imported Surface Waters					
			PHG [3]	Sunnyvale Well Water [5]	SCVWD [6]		SFPUC [7]			
	Unit	*MCL [2]*	*MCLG [4]*	*Range*	*Avg.*	*Range*	*Avg.*	*Range*	*Avg.*	
PHYSICAL PARAMETERS										
Color	Units	15	NS	<3 - 5	<3	<2.5 - <2.5	<2.5	<5 - 6	<5	Naturally-occurring organic materials
Chloride	ppm	500	NS	34.0 - 82.0	48.3	21 - 104	66	<3 - 44	8	Runoff/leaching from natural deposits; seawater influence
Foaming Agents	ppm	0.5	NS	ND - ND	ND	ND - ND	ND		n/a	Municipal and industrial waste discharges
Sulfate	ppm	500	NS	22 - 43	37	45 - 71.9	56.6	<1 - 58	29	Runoff/leaching from natural deposits; industrial wastes
Zinc	ppm	5	NS	ND - ND	ND	ND - ND	ND		n/a	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	1000	NS	370 - 540	433	197 - 314	266	29 - 171	100	Runoff/leaching from natural deposits
Specific Conductance	umhos/cm	1600	NS	583 - 829	683	350 - 613	500	24 - 440	186	Substances that form ions when in water; seawater influence
Iron	ppm	0.3	NS	ND - ND	ND	ND - ND	ND	<0.01 - 0.032	0.018	Leaching from natural deposits
ADDITIONAL CONSTITUENTS										
pH	Units	NS	NS	7.5 - 7.7	7.6	7.1 - 8	7.6	7.5 - 10.5	8.8	
Hardness (as $CaCO_3$)	ppm	NS	NS	276 - 351	310	69 - 144	105	7 - 145	66	
Alkalinity (as $CaCO_3$)	ppm	NS	NS	215 - 258	238	68 - 127	80	10 - 138	62	
Boron	ppm	NS	NL=1.0	0.14 - 0.20	0.16	0.1 - 0.2	0.2	0.01 - 0.074	0.044	
Magnesium	ppm	NS	NS	21 - 33	25	11 - 18	14	<0.5 - 10	5.4	
Potassium	ppm	NS	NS	1.1 - 1.5	1.3	1.6 - 3.9	3	0.3 - 2	1	
Sodium	ppm	NS	NS	22 - 39	29	34 - 82	58	3 - 18	10	
Calcium	ppm	NS	NS	64 - 99	83	19 - 27	22	3 - 27	15	
Silica	ppm	NS	NS		n/a	13 - 16	15	5 - 8	6	
Radon	pCi/L	NS	NS	280 - 530	396		n/a		n/a	
Perchlorate	ppm	NS	NS	ND - ND	ND	ND - ND	ND			
Vanadium	ppm	NS	NS	ND - 0.013	0	0.003 - 0.003	0.003		n/a	
Chromium(Hexavalent)	ppb	NS	NS	0.25 - 2.75	1.6	ND - ND	ND		n/a	

SUNNYVALE DISTRIBUTION SYSTEM

	Unit	*MCL [2]*	*PHG [3] MCLG [4]*	*Range*	*90th Percentile*	*Typical Sources in Drinking Water*
LEAD AND COPPER RULE STUDY	unit	NL [15]				
Copper - City of Sunnyvale	ppb	1300 [16]	170	ND - 430	279	Corrosion of household plumbing systems
Lead - City of Sunnyvale	ppb	15 [17]	2	ND - 11	2	Corrosion of household plumbing systems
DISINFECTION BYPRODUCTS					Avg.	
Total Trihalomethanes [11]	ppb	80	n/a	30 - 69.4	46	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5) [11]	ppb	60	n/a	2.1 - 35	19.75	By-product of drinking water chlorination
Disinfectant residual - chlorine	ppm	MRDL=4.0		0.96 - 2.12	1.84	Disinfectant added for treatment
MICROBIOLOGICAL						
Total Coliform Bacteria [10]	% Pos	5	n/a	0 - 1	0.2	Naturally present in the environment

(1) Set forth in 40 CFR Part 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22, Section 11647
(2) Maximum Contaminant Level established by U.S. EPA/CA DHS
(3) Public Health Goal established by California Office of Environmental Health Hazard Assessment
(4) Maximum Contaminant Level Goal established by the Environmental Protection Agency
(5) Sunnyvale Municipal Wells (groundwater).
(6) Santa Clara Valley Water District (Rinconada Water Treatment Plant)
(7) San Francisco Water Department (Hetch-Hetchy)
(8) Turbidity is the water clarity indicator and standards are set per Treatment Technique or Source Water Type
(9) Filtered water turbidity must be less than 0.3 NTU 95% of the time. The SFPUC and SCVWD met this standard 100 % of the time
(10) Coliform by Absence/Presence Method
(11) 4-Quarter running average of TTHMs and HAA5 in Sunnyvale's water supply system
(12) The reported data is minimum % of time that the filtered water has turbidity less than 0.3 NTU
(13) Federal MCLG is 10 mg/L for Nitrate as Nitrogen
(14) The City of Sunnyvale has been monitoring for MTBE since 1997, and MTBE levels at all locations are below DHS limit
(15) Action Level (AL). The 90th percentile of lead or copper must be below the action leve
(16) In 2004, 0 out of 50 residences were over the action leve
(17) In 2004, 0 out of 50 residences were over the action leve

Abbreviations and Units

NTU = Turbidity Unit
NS = No Standard
ND = None Detected
n/a = Not Available
ppm = parts per million (milligrams per liter)
µmhos/cm = Micromhos/centimeter
pCi/L = picoCuries/liter
% pos = % positive
ppb = parts per billion (micrograms per liter)
MFL = Million fibers per liter
MRDL = Maximum Residual Disinfectant Leve
MCL = Maximum Contaminant Leve
NL = Concentration of contaminant, if exceeded triggers treatment or other requirement
TT = Treatment Technique
N/A = Not Applicable

ADDITIONAL COMMENTS OR NOTATIONS.

In accordance with DHS regulations, in 2004 the SCVWD monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, contact the District at (408) 265- 2600 or visit their web site at www.scvwd.dst.ca.us.

In accordance with DHS regulations, in 2004 SFPUC monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, call the SFPUC Water Quality Bureau at (650) 972-5950 or visit their web page at www.ci.sf.ca.us/puc.

In accordance with DHS regulations, in 2004 the City of Sunnyvale monitored water quality for its source water supplies, and in all cases has met the required limits. For some contaminants the State allows us to monitor less than once per year due to the fact that these contaminants do not change frequently.

Important Definitions for Understanding This Report

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protectio Agency.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS): MCLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions. The City of Sunnyvale has no variance or exemptions for MCLs.

Waiver: State permission to decrease the monitoring frequency for a particular contaminant.